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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,280	06/19/2001	Clifford L. Hersh	PA1763US	3918

22830 7590 05/25/2005

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EXAMINER
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CAMPBELL, JOSHUA D

ART UNIT	PAPER NUMBER
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2179

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/884,280

Applicant(s)

HERSH, CLIFFORD L.

Examiner

Joshua D Campbell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is responsive to communications: Amendment filed on 03/21/2005.
2. Claims 1-14 are pending in this case. Claims 1, 4-9, and 11-13 are independent claims. Claim 14 has been newly added.
3. The rejection of claims 3, 7, and 8 under 35 U.S.C. 103(a) as being unpatentable over Gostanian et al. (hereinafter Gostanian, US Patent Number 5,781,910, issued on July 14, 1998) has been withdrawn based on arguments.
4. The rejection of claims 12 and 13 under 35 U.S.C. 102(b) as being anticipated by Gostanian et al. (hereinafter Gostanian, US Patent Number 5,781,910, issued on July 14, 1998) has been withdrawn based on arguments.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4-6, and 9-11 remain rejected under 35 U.S.C. 102(b) as being anticipated by Gostanian et al. (hereinafter Gostanian, US Patent Number 5,781,910, issued on July 14, 1998).

**Regarding independent claim 1,** Gostanian discloses a method in which it is determined that two or more operations are operable on the same element and that the

operations are in kind operations (column 10, line 15-column 11, line 10 of Gostanian). It is then determined that the operations are addition operations, thus commutative (column 10, line 15-column 11, line 10 of Gostanian).

**Regarding dependent claim 2**, Gostanian discloses a method in which it is determined that the result of two operations is listed as commutative and thus are allowed to execute if it is determined that the result would be identical if the operations were run in any order, which would include two identical assignment statements (column 10, line 15-column 11, line 10 of Gostanian).

**Regarding independent claims 4-6, 9, and 11**, the claims incorporate substantially similar subject matter as claim 1. Thus, the claims are rejected under the same rationale as claim 1.

**Regarding dependent claims 10**, the claim incorporates substantially similar subject matter as claim 2. Thus, the claim is rejected under the same rationale as claim 2.

**Regarding independent claims 12 and 13**, Gostanian discloses a method in which computation operations will be executed based on no direct limits (thus no limit is violated) and other requirements are met (column 10, line 15-column 11, line 10 of Gostanian). In one case, the operations will be executed if they are not operational on the same elements (column 10, line 15-column 11, line 10 of Gostanian). In another case they will execute if they operate on the same element and they are both addition (column 10, line 15-column 11, line 10 of Gostanian). In yet another case they will execute if they operate on the same element and they are assigning the same value to

the element, based on the fact that Gostanian discloses a method in which it is determined that the result of two operations is listed as commutative and thus are allowed to execute if it is determined that the result would be identical if the operations were run in any order, which would include two identical assignment statements (column 10, line 15-column 11, line 10 of Gostanian).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 7, 8, and 12-14 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Gostanian et al. (hereinafter Gostanian, US Patent Number 5,781,910, issued on July 14, 1998) in view of Chen et al. (hereinafter Chen, US Patent Number 4,901,230, issued February 13, 1990).

**Regarding dependent claim 3**, Gostanian does not directly disclose a method in which it is determined whether the computational operations violate a limit then the operations are considered to be a failure and not executed. However, Chen discloses a method in which it is determined whether the computational operations violate a limit then the operations are considered to be a failure and not executed (column 17, lines 18-67, and column 3, lines 43-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the methods of Chen with

the methods of Kingsbury because using limits would have provided boundaries for the data and thus allowed control over data changes.

**Regarding independent claims 7 and 8,** Gostanian discloses a method in which it is determined that the result of two operations is listed as commutative and thus are allowed to execute if it is determined that the result would be identical if the operations were run in any order (column 10, line 15-column 11, line 10 of Gostanian). Gostanian does not directly disclose a method in which it is determined whether the computational operations violate a limit then the operations are considered to be not commutative. However, Chen discloses a method in which it is determined whether the computational operations violate a limit then the operations are considered to be a failure and not executed (column 17, lines 18-67, and column 3, lines 43-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the methods of Chen with the methods of Kingsbury because using limits would have provided boundaries for the data and thus allowed control over data changes.

**Regarding independent claims 12 and 13,** In one case, the operations will be executed if they are not operational on the same elements (column 10, line 15-column 11, line 10 of Gostanian). In another case they will execute if they operate on the same element and they are both addition (column 10, line 15-column 11, line 10 of Gostanian). In yet another case they will execute if they operate on the same element and they are assigning the same value to the element, based on the fact that Gostanian discloses a method in which it is determined that the result of two operations is listed as

commutative and thus are allowed to execute if it is determined that the result would be identical if the operations were run in any order, which would include two identical assignment statements (column 10, line 15-column 11, line 10 of Gostanian).

Gostanian does not directly disclose a method in which it is determined whether the computational operations violate a limit then the operations are considered to be a failure and not executed. However, Chen discloses a method in which it is determined whether the computational operations violate a limit then the operations are considered to be a failure and not executed (column 17, lines 18-67, and column 3, lines 43-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the methods of Chen with the methods of Kingsbury because using limits would have provided boundaries for the data and thus allowed control over data changes.

**Regarding independent claim 14,** In one case, the operations will be executed if they are not operational on the same elements (column 10, line 15-column 11, line 10 of Gostanian). In another case they will execute if they operate on the same element and they are both addition (column 10, line 15-column 11, line 10 of Gostanian). In yet another case they will execute if they operate on the same element and they are assigning the same value to the element, based on the fact that Gostanian discloses a method in which it is determined that the result of two operations is listed as commutative and thus are allowed to execute if it is determined that the result would be identical if the operations were run in any order, which would include two identical assignment statements (column 10, line 15-column 11, line 10 of Gostanian).

Gostanian does not directly disclose a method in which it is determined whether the computational operations violate a limit then the operations are considered to be a failure and not executed. However, Chen discloses a method in which it is determined whether the computational operations violate a limit then the operations are considered to be a failure and not executed (column 17, lines 18-67, and column 3, lines 43-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the methods of Chen with the methods of Kingsbury because using limits would have provided boundaries for the data and thus allowed control over data changes. Gostanian does not directly disclose a method in which it is determined whether the computational operations violate a limit then the operations are considered to be not commutative. However, Chen discloses a method in which it is determined whether the computational operations violate a limit then the operations are considered to be a failure and not executed (column 17, lines 18-67, and column 3, lines 43-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the methods of Chen with the methods of Kingsbury because using limits would have provided boundaries for the data and thus allowed control over data changes.

### ***Response to Arguments***

9. Applicant's arguments filed 03/21/2005 have been fully considered but they are not persuasive.



Regarding the arguments on pages 9-14, regarding the limitations of claims 1, 4-6, and 9-11, the examiner believes that the Gostanian reference teaches the limitations and thus the rejection stands. Specifically, Gostanian teaches that a determination of protocol is made based on a determination of whether or not transactions on data are commutative or non-commutative (column 10, lines 33-37 of Gostanian). The first limitation of the claim reads, "...determining if any of the two or more computational operations to be executed are operable upon a same element," commutative operations would be operable on the same element in the same state as it currently is. Gostanian determines whether or not a specific operation and all of the other operations that might be performed on the element are commutative, thus operable on the same element in its current state (column 10, line 34-column 11, line 10 of Gostanian). The applicant argues that the transactions of Gostanian are not operations that are "to be executed are operable on the same element", however the determination of commutativity is based on how the transaction would reflect when executed along with other transaction executions on specific data (column 10, lines 37-41 of Gostanian, thus transactions are transactions that are "to be executed are operable on the same element". The applicant points out the term "might" as used in Gostanian, stating that the transactions "need not be 'operations to be executed'," however this is not a deficiency in the system of Gostanian as compared to the applicant's invention, rather the system of Gostanian checks transactions to be executed and transactions that will be executed in the future in normal operation of the specific system.

The applicant also argues that the element of claim 1 must be a data structure, not simply a database as taught in Gostanian. However, the examples shown in Gostanian clearly teach the method occurring on specific data structures, for instance a deposit account balance (column 10, lines 41-44 of Gostanian). Applicant also argues that Gostanian does not teach, "...determining if any of two or more computational operations determined to be operable upon the same element are in kind operations," however Gostanian shows examples in which this determination is used directly to select the protocol. In the first case, the system determines the operations are all addition (in kind), thus commutative and the first protocol may be used (column 10, lines 41-50 of Gostanian). However, in the second case one transaction is addition while another is multiplication which are not in kind transactions, thus the second protocol is used (column 10, line 61-column 11, line 10 of Gostanian). These two cases show that a determination of "in kind" or not "in kind" is made, and at the same time a determination of addition operations is also made, satisfying the third limitation of claim 1.

Regarding the arguments on pages 14-15, regarding the limitations of claims 2 and 10, the examiner believes that the Gostanian reference teaches the limitations and thus the rejection stands. Specifically, Gostanian teaches that a determination of protocol is made based on a determination of whether or not transactions on data are commutative or non-commutative (column 10, lines 33-37 of Gostanian). This determination is made by testing how data would be effected by the transactions being executed in different orders, if the final state is the same they are commutative, if it is

not they are not commutative (column 10, lines 33-50 of Gostanian). The examples shown involve addition and multiplication, however this is not a limiting factor because they are merely examples of how the method would be carried out. By definition two transactions that are assignment transactions on the same element with the same assignment value (for instance: transaction 1 is  $A=3$  and transaction 2 is  $A=3$ ) when tested would result in an identical final states, thus be deemed commutative when operated in the method of Gostanian, and be allowed to execute under the open protocol (column 10, lines 37-41 of Gostanian). If the assignment transactions on the same element have different assignment values (for instance: transaction 1 is  $A=3$  and transaction 2 is  $A=2$ ), when the results are tested they would result in different final states, thus be deemed non-commutative by the method of Gostanian and not be allowed to be executed (column 10, line 51-column 11, line 10 of Gostanian).

10. Applicant's arguments, see pages 19-22, filed 03/21/2005, with respect to the rejection(s) of claim(s) 3, 7, and 8 under 35 U.S.C. 103(a) as being unpatentable over Gostanian et al. (hereinafter Gostanian, US Patent Number 5,781,910, issued on July 14, 1998) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection has been made and is shown above.

11. Applicant's arguments, see pages 15-19, filed 03/21/2005, with respect to the rejection(s) of claim(s) 12 and 13 under 35 U.S.C. 102 (b) as being anticipated by Gostanian et al. (hereinafter Gostanian, US Patent Number 5,781,910, issued on July 14, 1998) have been fully considered and the arguments regarding "limits" are

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persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection has been made and is shown above.

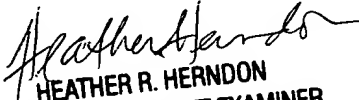
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D Campbell whose telephone number is (571) 272-4133. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on (571) 272-4136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JDC  
May 16, 2005

  
HEATHER R. HERNDON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100